

## **Supplemental Material**

**Supplemental Figure 1.** Analysis Scheme.

**Supplemental Figure 2.** Breakdown of variants identified in *PKD1* & *PKD2*.

**Supplemental Figure 3.** Distribution of all mutations across exons of *PKD1*.

**Supplemental Figure 4.** Distribution of pathogenic mutations across exons of *PKD1*.

**Supplemental Figure 5.** Comparison of mutation rate in duplicated (exons 1—33) and non-duplicated (exons 34-46) region of *PKD1*.

**Supplemental Figure 6.** Coverage of *PKD1* and *PKD2* using whole genome sequencing in BRAVO and gnomAD.

**Supplemental Figure 7.** Coverage of *PKD1* and *PKD2* using whole exome sequencing in BRAVO and gnomAD.

**Supplemental Appendix 1.** Cohorts included in gnomAD and BRAVO datasets.

**Supplemental Appendix 2.** Summary results for *PKD1* and *PKD2* in whole genome and exome sequencing of gnomAD and BRAVO.

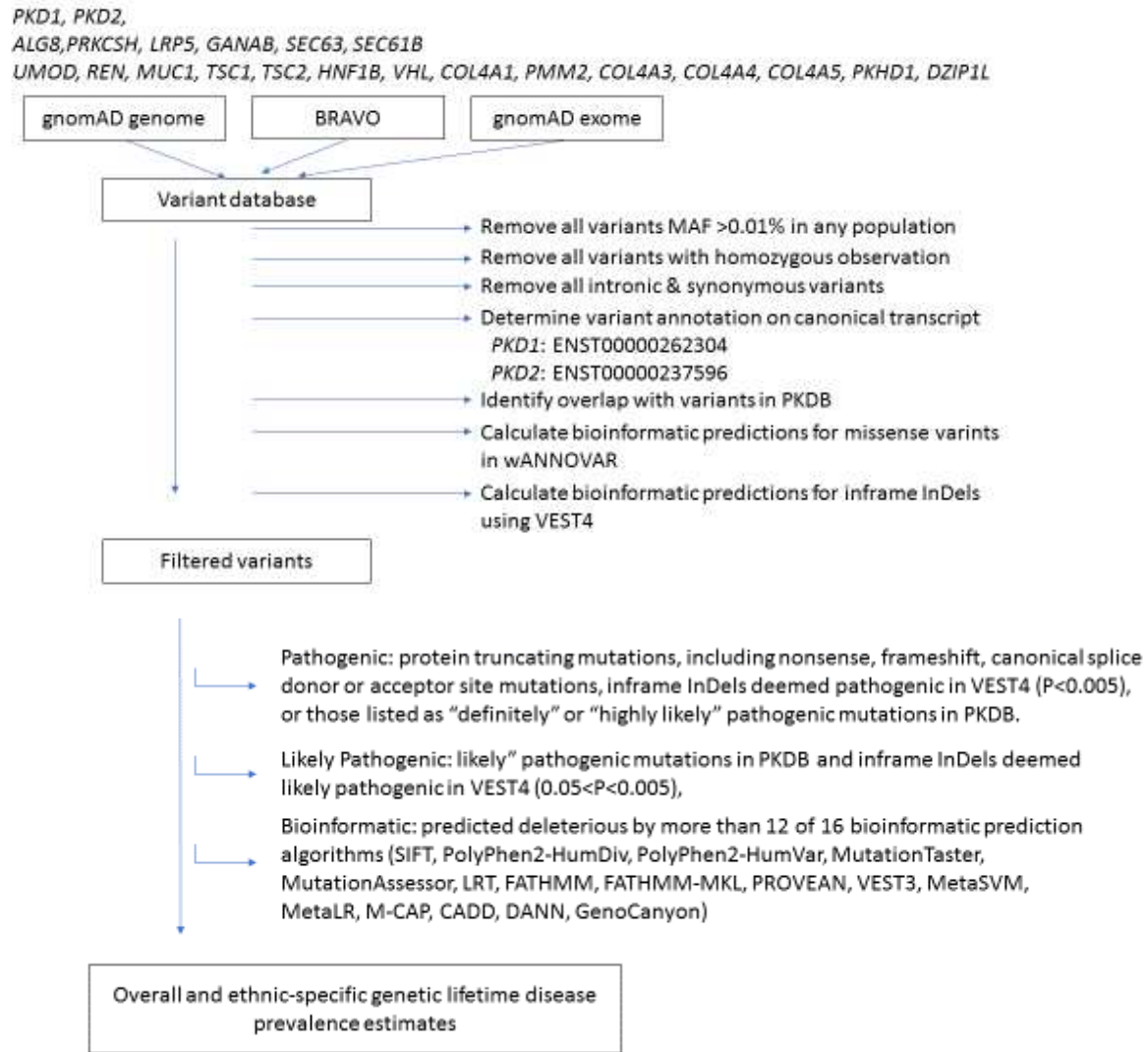
**Supplemental Appendix 3.** Pathological, Likely Pathogenic, and Bioinformatic-predicted *PKD1* variants.

**Supplemental Appendix 4.** Pathological, Likely Pathogenic, and Bioinformatic-predicted *PKD2* variants.

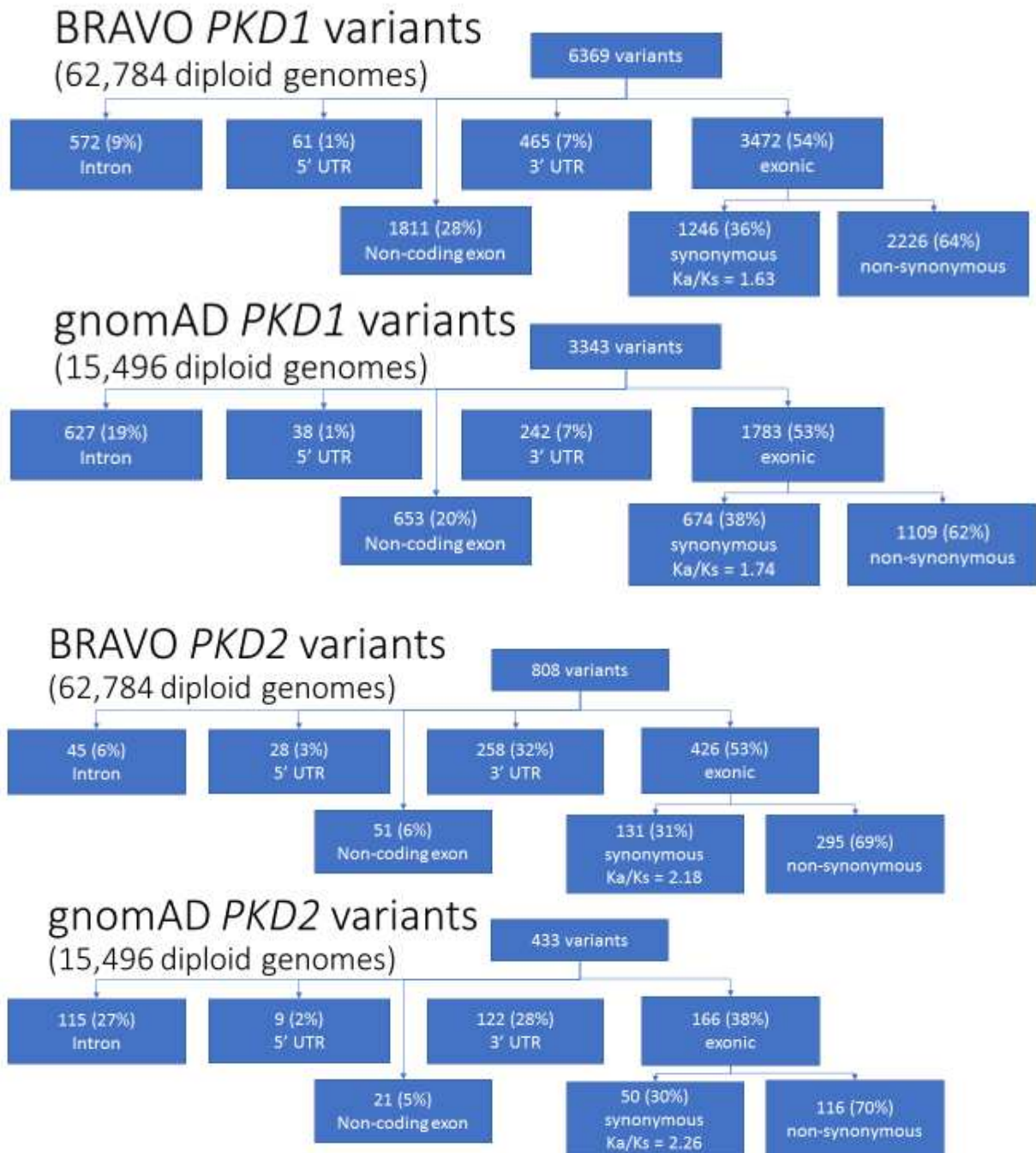
**Supplemental Appendix 5.** Likely hypomorphic *PKD1* variants from Mayo PKDB in gnomAD and BRAVO.

**Supplemental Appendix 6.** Summary of cystogenic and potential cyst modifying variants.

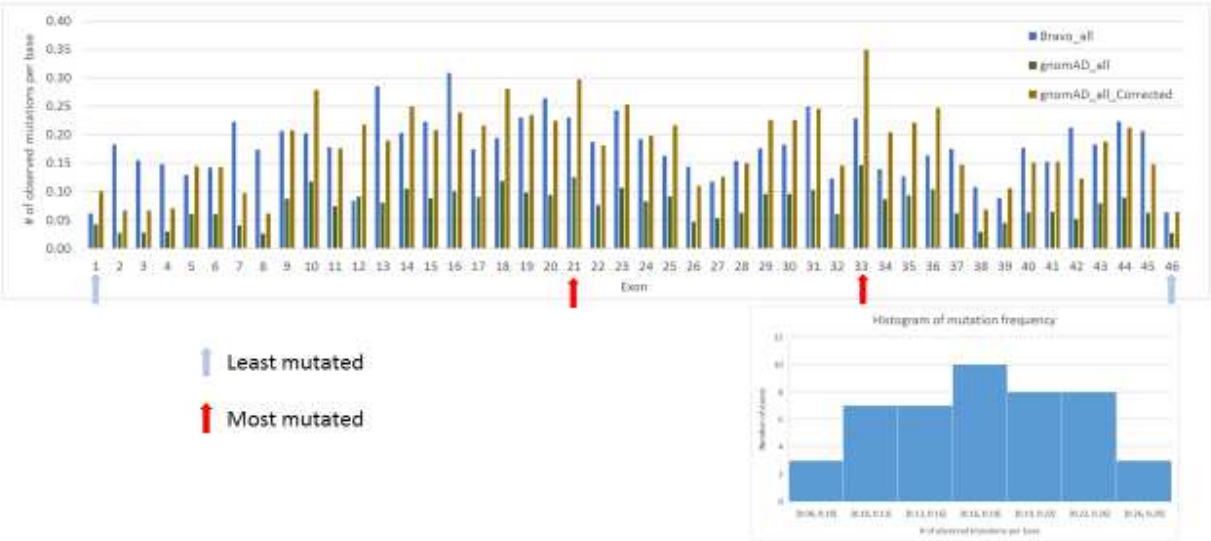
## Supplemental Figure 1. Analysis Scheme.



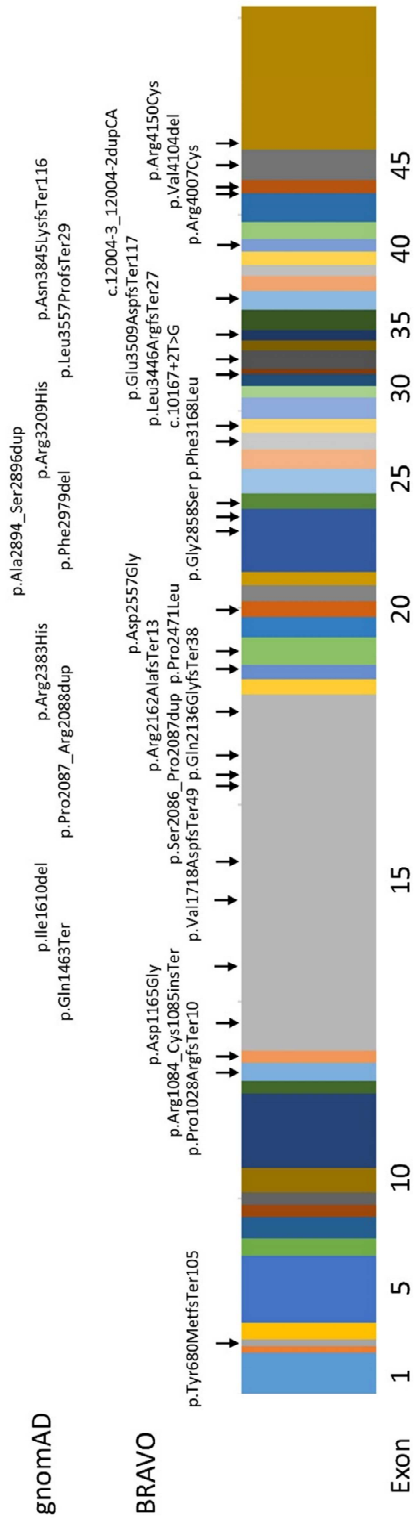
**Supplemental Figure 2.** Breakdown of variants identified in *PKD1* & *PKD2*.



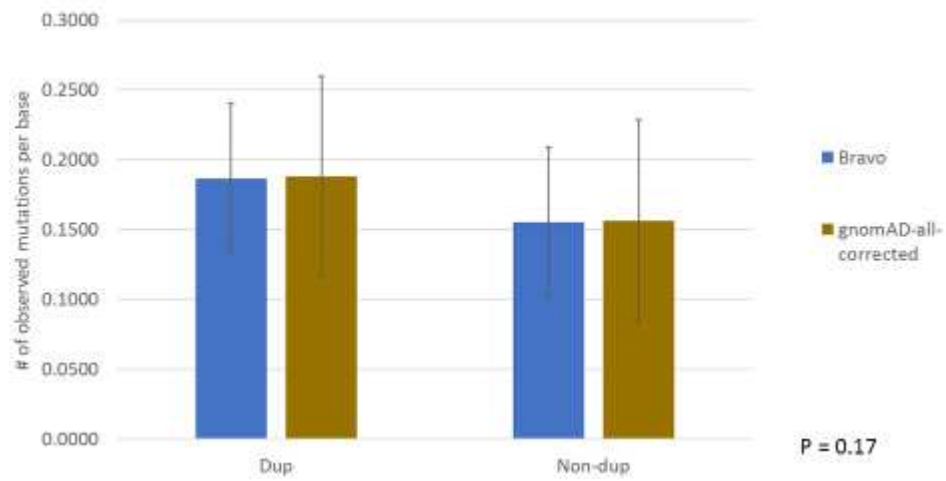
**Supplemental Figure 3.** Distribution of all observed rare mutations across exons of *PKD1*.



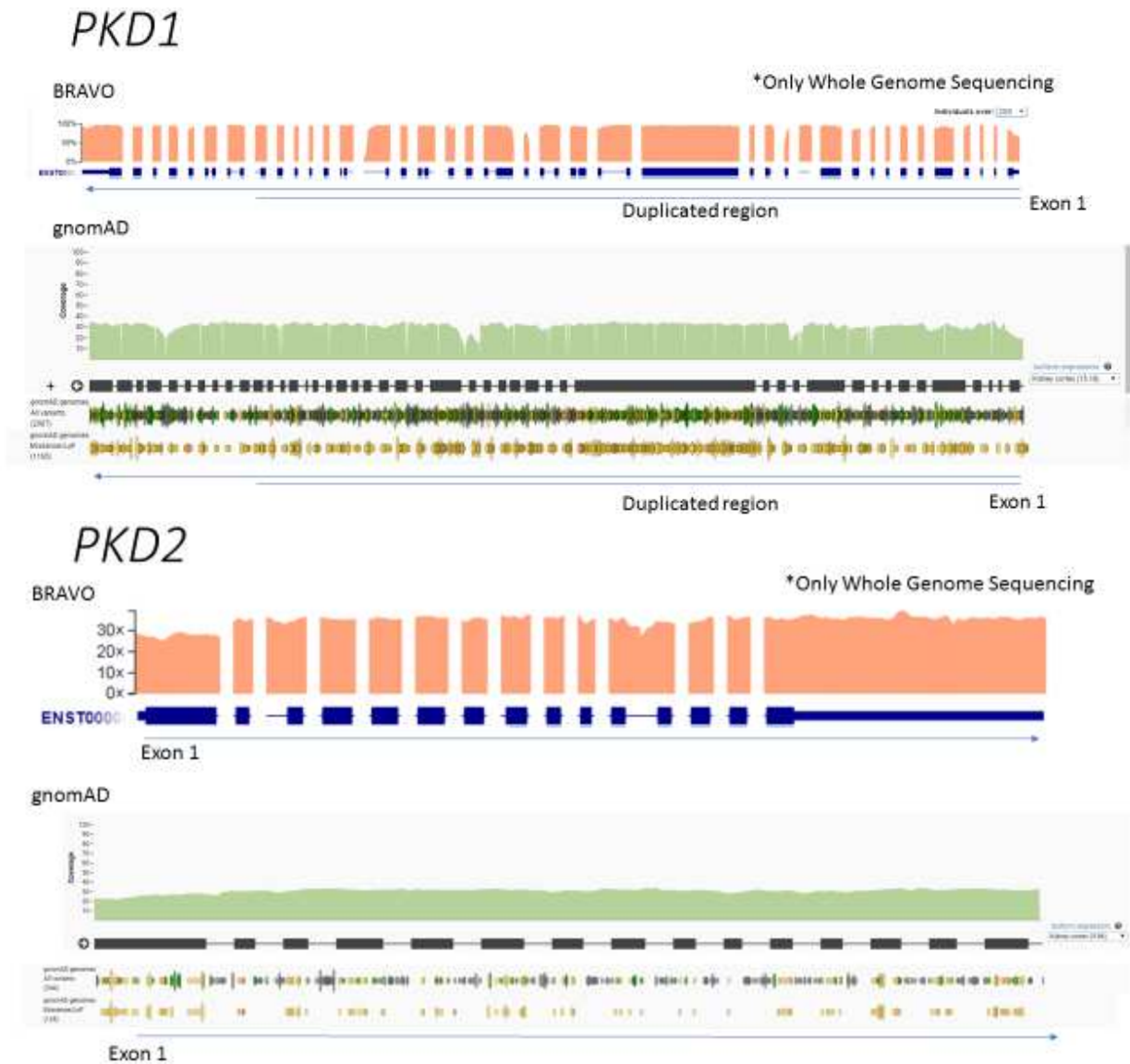
**Supplemental Figure 4.** Distribution of pathogenic mutations across exons of *PKD1*.



**Supplemental Figure 5.** Comparison of mutation rate in duplicated (exons 1—33) and non-duplicated (exons 34-46) region of *PKD1*.

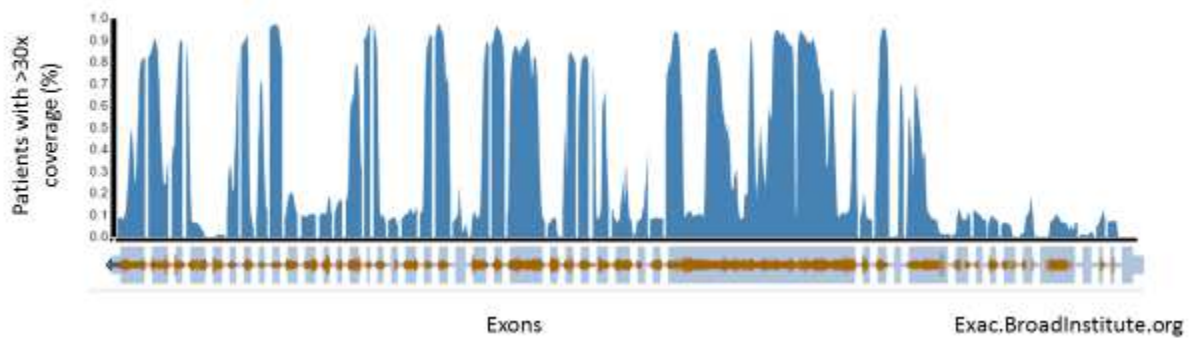


**Supplemental Figure 6.** Coverage of *PKD1* and *PKD2* using whole genome sequencing in BRAVO and gnomAD.



**Supplemental Figure 7.** Coverage of *PKD1* and *PKD2* using whole exome sequencing in BRAVO and gnomAD.

*PKD1*



*PKD2*

